Storm Sewers and Offsite Drainage **UDOT 08A-6**

Effective: February 7, 1969 Revised: October **18, 2005**

Purpose

The purpose of this policy is to provide guidance for planning, design and construction of UDOT's storm sewers and to regulate offsite drainage connections to existing storm sewer systems. This policy defines the conditions and criteria for accepting or rejecting offsite drainage into UDOT storm drain systems so as to assure sufficient capacity and to maintain a safe and efficient roadway.

Policy

I. NEW SYSTEMS

The Department should provide storm sewers for storm water generated on a State road in a developed or developing area in conjunction with a new highway construction or reconstruction under any of the following conditions**:**

1. No other means of draining the highway is economically feasible.
2. The local storm sewer is unavailable.
3. The local authority will participate in the cost of constructing a storm sewer for collecting drainage from local streets or other areas.
4. Department is allowed to deposit drainage from the state road right-of-way into an existing outfall sewer of adequate capacity.

The designer should plan highway drainage facilities to perpetuate and maintain natural drainage, insofar as this is practicable.

In general, the coordinated planning and design of shared highway drainage facilities with the affected local governments will lead to the safest, most cost effective, and maintenance free system. Coordination with responsible local agencies is desirable to ensure that proposed facilities are compatible with the long-term needs of the area. By sharing information with local agencies wishing to develop a comprehensive stormwater management plan the Department is not assuming responsibility for the planning and decision-making process for the entire watershed.

Drainage facilities should conform to basin-wide drainage plans (master plans) where they exist, or show that the plan likely complements and not be in conflict with the more likely drainage plan that could develop over time.

A drainage report should be prepared, and should provide recommendations for proposed drainage facilities. The report should include a hydrologic and hydraulic analysis of the area being improved, showing development scenarios and highway drainage options that conform to the local drainage master plan. The report should be prepared in accordance with the most recent requirements in the UDOT Roadway Drainage Manual.

II. EXISTING FACILITIES

A. General Conditions

One of the following conditions must be met for allowing any offsite drainage to enter UDOT storm drainage systems:

1. Any proposed new drainage flows, originating from an area currently discharging into UDOT's drainage system do not exceed pre-development drainage flows from that area.
2. The proposed new drainage system flow is part of the planned capacity of a system currently discharging into a UDOT system, for which the entity maintaining the offsite drainage system participated in the cost of constructing of the storm sewer.

III. REQUIREMENTS

A. Design

Flows from proposed new ties to UDOT's drainage system must be designed according to the latest version of the UDOT Roadway Drainage Manual of Instruction, unless the system tying in is part of a local master plan with different requirements, the peak flow contribution can not exceed 0.2 CFS (cubic feet per second) per acre of tributary area.

B. Water Quality Requirements

Any pollutants or contaminants introduced by the developed site into the drainage system must be removed prior to entering UDOT's drainage systems by using Best Management Practices (BMPs) or any other methods that positively remove possible contaminants or pollutants. The offsite drainage water quality must equal, or exceed the existing water quality in UDOT's drainage system.

C. Historic drainage

UDOT expects to maintain its existing drainage onto the adjacent property.

D. Ponding

No offsite drainage is allowed to pond within UDOT's Right of Way.

E. Design and Construction Standards

Offsite drainage facilities must be designed and constructed according to the current UDOT's Standard Specifications and Details.

IV. APPLICATION

Entities proposing to tie their drainage system into UDOT's drainage systems must file an application with the UDOT Region Permits offices. The Applicant for an offsite drainage tie-in must complete the UDOT's offsite drainage application and submit the following supporting information prepared by a Professional Engineer (Civil, registered in the State of Utah):

A. A location map with sufficient information to locate the project, along with a contour map of the pre-development and the post-development site, using one-foot contour increments.

B. Drainage calculations showing pre- and post-development conditions according to the latest UDOT Roadway Drainage Manual of Instruction, including storage requirements for the most critical duration storm. Calculations for the site's post-development drainage flow must document that post-developed flow does not exceed the pre-developed flow.

C. Post-development site plan showing:
   1. Grading plan showing planned surface elevations
   2. Location of discharge into UDOT's system,
   3. Size of flow restriction device with details,
   4. Location of BMP with details
   5. Size and location of storage areas
   6. High water mark
   7. Pipe diameter
   8. Stormwater velocity
   9. Hydraulic grade line
   10. Pipes slopes
   11. Show the outfall and how it affects the UDOT system
   12. Show how flows in excess of 100-year recurrence interval will be safely routed to an ultimate outfall

D. If the proposed system flow is part of a master-plan and the system into which it is going to discharge was designed to include the proposed new offsite drainage flow (see condition III.A.2 of this policy), the applicant must provide evidence showing (copy of the master-plan and interagency agreement) the system has the capacity and has been designed to carry the flow for the property in question.

E. Certification by the Engineer that the plans are in compliance with Utah Code.

VI. APPROVAL

The Region Hydraulics Engineer and the Permit Officer are responsible for reviewing, and approving or rejecting the application for offsite drainage and new mainline construction initiated by local authority.

A. Approval of the request to add offsite stormwater is dependent on adhering to the policy criteria and conditions, and positive verification of existing and future capacity in the drainage facilities in consideration.

B. Reasons for rejecting include but are not limited to: existing capacity of the system/or any known existing drainage nuisance, the introduction of the new drainage will exceed the capacity of the system, or water quality concerns not related to capacity.

C. If it is determined that UDOT will accept a connection to one of its storm systems, the governmental entity requesting to connect into UDOT drainage system must sign a maintenance agreement and allow UDOT personnel the right to monitor and police the flow coming from the development.

Definitions

The following definitions apply to this policy:

1. Cross Culvert: A transverse drain, covered with embankment, which allows surface runoff to pass under the embankment.
2. Storm Sewer: A closed conduit or waterway that collects and conveys storm runoff, which has drainage structures at the ends of individual pipe runs that includes but not limited to catch basins, drop inlets, man-holes, headwalls, end-sections, detention/retention basins and other similar features.
3. Irrigation Pipe: A pipe designed to carry seasonal irrigation water to by gravity flow.
4. Offsite Drainage: Storm water runoff originating from any areas outside UDOT's Right of Way.
5. Damage to pipe: Any defect that compromises the longevity or functionality of the installation.
6. Pollutant: Any substance that degrades the beneficial use classification established by the Utah Division of Water Quality of the receiving waters or, if there is no classification, any substance which degrades the existing uses of the receiving waters.

Responsibility

When the Department elects to build facilities on its right of way to provide an outfall for current or future offsite drainage facilities constructed or planned by an authorized governmental entity, the governmental entity will enter into an agreement with the Department to convey only the planned offsite drainage, and to contribute financially to the construction of the drainage facilities within the UDOT Right of Way. The contribution should be proportional to the requested offsite drainage flow.

All connecting systems must be designed according to the most current UDOT standards or better.

A local governmental authority, requesting placement of facilities in UDOT's Rights of Way is responsible for all the maintenance costs of such facilities. The local governmental authority will also be required to enter into a Statewide Utility Line Agreement with UDOT. The Department reserves the right to charge the local entity for cost incurred in maintaining locally owned drainage structures, to maintain normal traffic operation.

When a storm sewer is used by more than one local authority, no authority may increase their stormwater flow into the storm sewer without the written permission of UDOT or other the authorities.